

WHAT IS CLAIMED IS:

1. A cool air circulation type axial flow fan for circulating cool air in a refrigerator, comprising:

5 a hub connected to a motor via a rotating shaft of the motor; and

a plurality of spaced blades mounted on the outer circumference of the hub,

10 wherein the number of the blades is set to between 6 and 8, and each of the blades has a sweep angle of between 50 and 65 degrees.

15 2. The fan as set forth in claim 1, wherein the fan is rotated counterclockwise when seen from a positive pressure surface of each of the blades.

3. The fan as set forth in claim 2, wherein the number of the blades is 7.

20 4. The fan as set forth in claim 3, wherein the sweep angle is  $51^{\circ} \pm 1^{\circ}$ .

25 5. The fan as set forth in claim 4, wherein each of the blades has a pitch angle, the pitch angle being large at a blade hub of each of the blades and small at a blade tip of

each of the blades.

6. The fan as set forth in claim 5, wherein the pitch angle is linearly reduced from the blade hub of each of the blades to the blade tip of each of the blades.

7. The fan as set forth in claim 6, wherein the pitch angle is  $40^{\circ} \pm 1^{\circ}$  at the blade hub of each of the blades, and  $31.5^{\circ} \pm 1^{\circ}$  at the blade tip of each of the blades.

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8. The fan as set forth in claim 4, wherein each of the blades has a prescribed rake angle  $r$  formed on the positive pressure surface of each of the blades.

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9. The fan as set forth in claim 8, wherein the rake angle is  $21^{\circ} \pm 1^{\circ}$  on the positive pressure surface of each of the blades.

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10. The fan as set forth in claim 4, wherein each of the blades has a maximum camber position, the maximum camber position being uniformly distributed from the blade hub of each of the blades to the blade tip of each of the blades.

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11. The fan as set forth in claim 10, wherein the maximum camber position is 0.7 on the assumption that positions

of a leading edge of each of the blades and a trailing edge of each of the blades are 0 and 1, respectively.

12. The fan as set forth in claim 10, wherein each of  
5 the blades has a maximum camber ratio, the maximum camber ratio being uniformly distributed from the blade hub of each of the blades to the blade tip of each of the blades.

13. The fan as set forth in claim 11, wherein the  
10 maximum camber ratio is  $7.0 \pm 1 \%$ .